

PJC211/212/221/222

S-linkControl Panel

EN Installation and user's manual v 2.0.9



Keep this
manual onboard !



PJC211



PJC212



PJC221



PJC222



SLEIPNER MOTOR AS

P.O. Box 519
N-1612 Fredrikstad
Norway
Tel: +47 69 30 00 60
Fax: +47 69 30 00 70

www.side-power.com
sidepower@sleipner.no



Made in Norway

Contents

Product Features	3
Panel layout & functions	4-5
Display in normal use	6
symbols explanations	7-8
Alarm DC system	9
Alarms (AC and hydraulic thrusters)	10
Menu system	11
Menu system - Language - Stabilizer - default settings	12
Setup procedure	13
Menu system - Setup	14-19
System devices	14
1. PHC 024	14
2. PDC 201	17
3. PDC 101	17
4. MAIN SWITCH	18
5. PPC800, SR150 000, SR61242	18-19
6. RCRS-1	20
7. MSI8730	20
Hold calibration	21
Menu system - Info	22
Menu system - Panel Setup	23
Alarm descriptions	24-25
Technical specifications	26
S-link system example	27
Measurements	28
Connections	29
Notes	30-31

DO NOT connect any other control equipment to the S-link controlled products except Side-Power original S-link products or via a Side-Power supplied interface product made for interfacing with other controls. Any attempt to directly control or at all connect into the S-link control system without the designated and approved interface, will render all warranties and responsibilities for the complete line of Side-Power products connected void and null. If you are interfacing by agreement with Sleipner and through a designated and approved interface, you are still required to also install an original Sidepower control panel to enable efficient troubleshooting if necessary

DECLARATION OF CONFORMITY



We, Sleipner Motor AS
P.O. Box 519
N-1612 Fredrikstad, Norway

declare that this product with accompanying standard remote control systems complies with the essential health and safety requirements according to the Directive 89/336/EEC of 23 May 1989 amended by 92/31/EEC and 93/68/EEC.

Control panel with S-link™ CAN-bus connection

Product features

- For proportional thruster control with DC, AC and Hydraulic Thrusters (Hydraulic thrusters PJC-221/222 only).
- Finger tip control speed control with purpose designed joysticks
- Hold - function for easy docking, runs thrusters at selected power (Dual joysticks PJC-212/222 only)
- Back-lit LCD display with instant feedback
 - System status / alarms
 - Amount of thrust & direction of thrust
- Interactive multi-language menus
- CAN-Bus communication with thrusters and accessories
- Plug & play cables with compact connectors
- Diagnostics and system setup via panel
- Built-in audible alarm "buzzer"
- Connector for external "buzzer"/loud audible alarms
- Supports Side-Power retractable thrusters with or without Speed Control



PJC211



PJC212



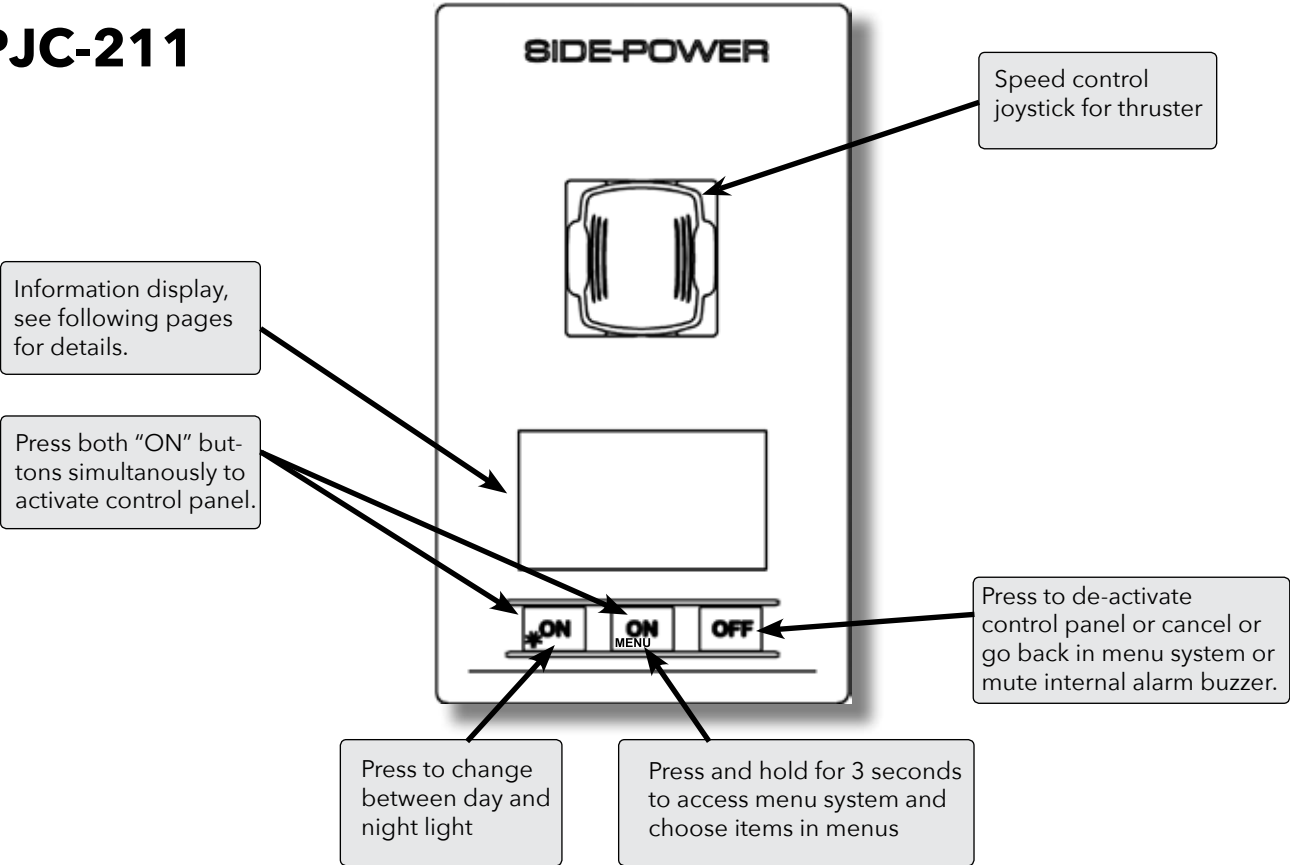
PJC221



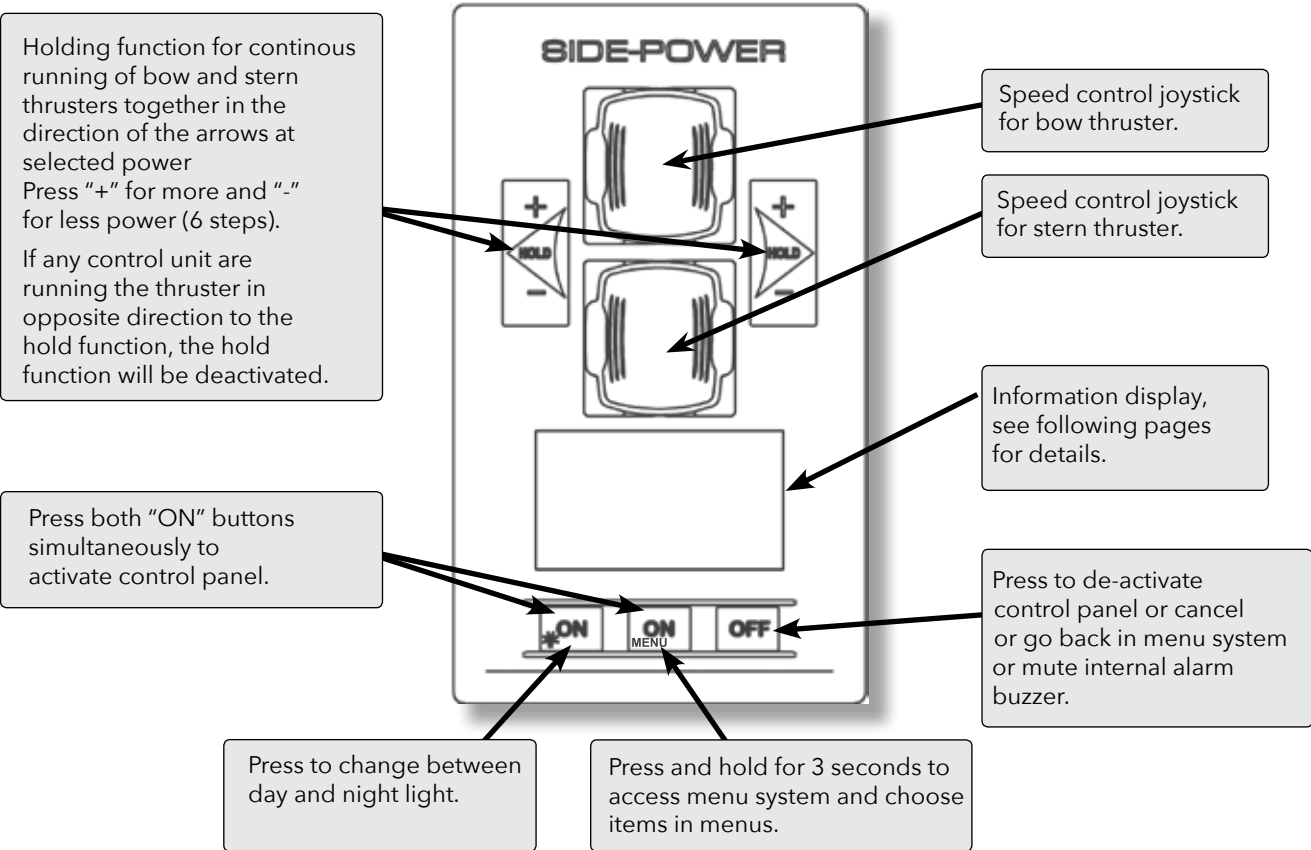
PJC222

Panel layout & functions

PJC-211

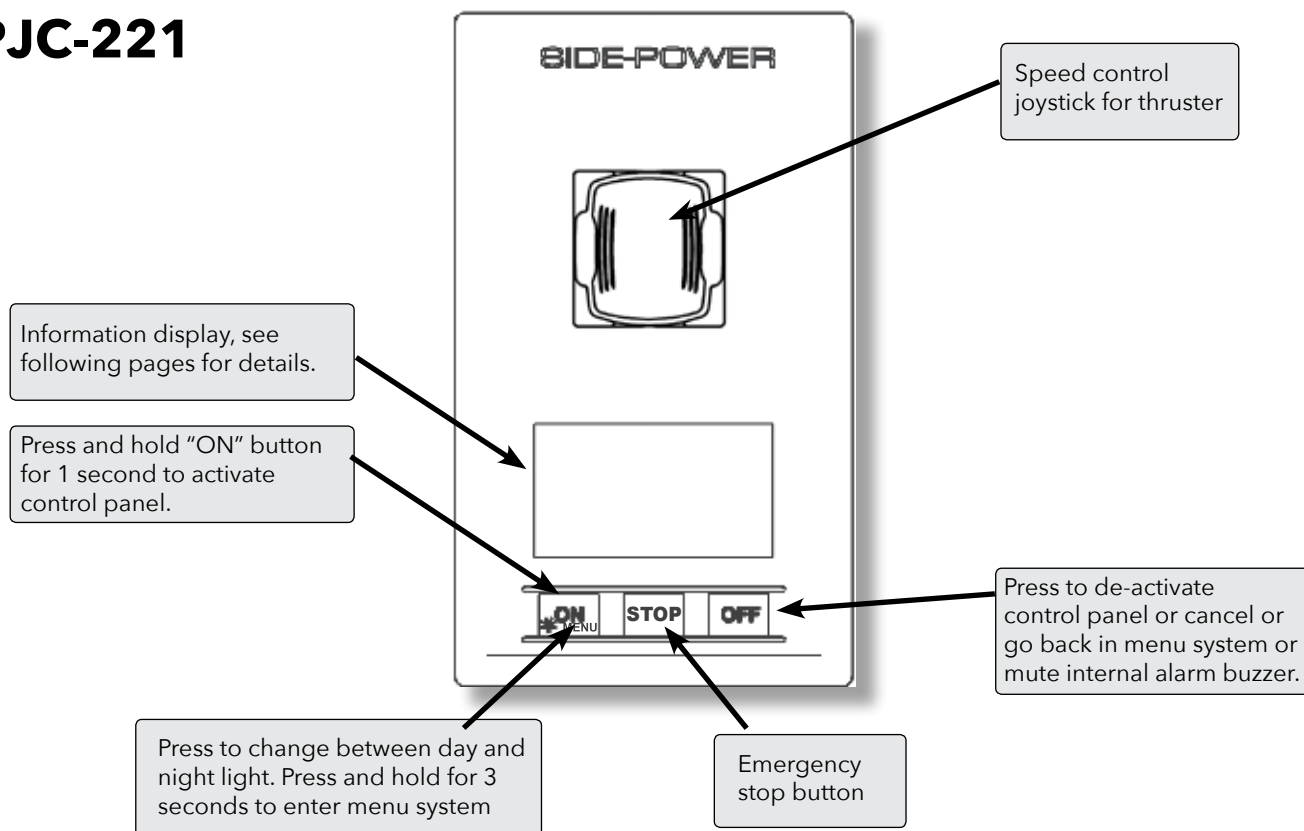


PJC-212

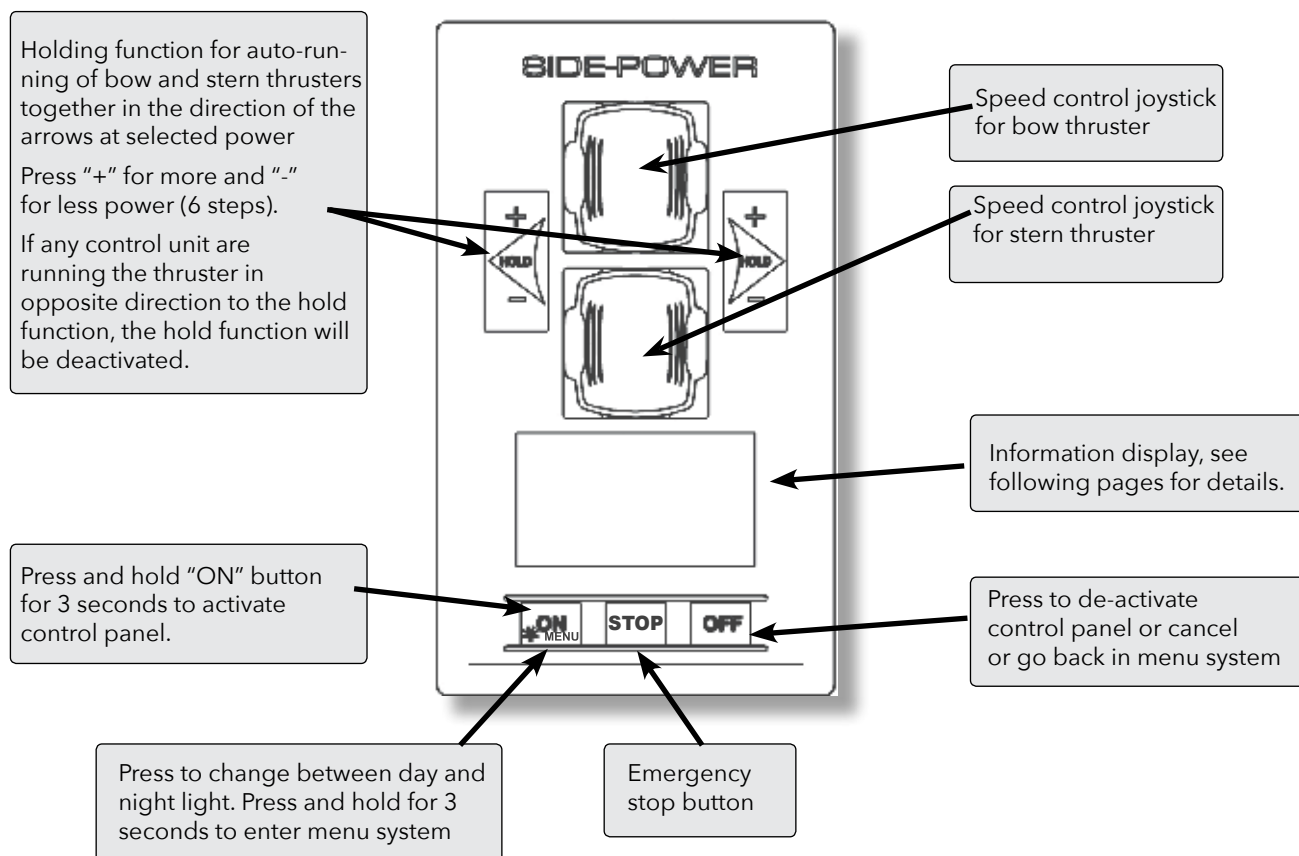


Panel layout & functions

PJC-221



PJC-222



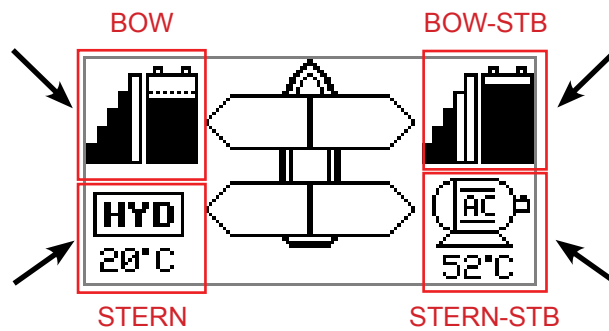
Display in normal use

Status indicators for bow thruster. (Port bow thruster in a dual bow thruster setup).

Runtime indicator will be shown here in a single DC electric bow thruster setup.

Status indicators for stern thruster. (Port bow thruster in a dual stern thruster setup)

Runtime indicator will be shown here in a single DC electric stern thruster setup.



Status indicators for starboard bow thruster. Only shown in a dual bow thruster setup.

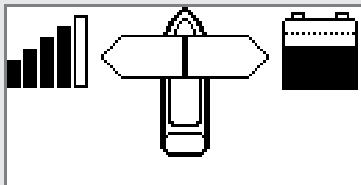
Battery indicator will be shown here in a single DC electric bow thruster setup.

Status indicators for starboard stern thruster. Only shown in a dual stern thruster setup.

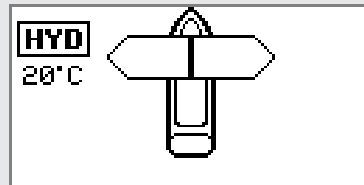
Battery indicator will be shown here in a single DC electric stern thruster setup.

Examples of display view for different panels applications:

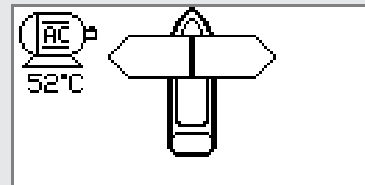
PJC211/221:
DC Electric Bow thruster



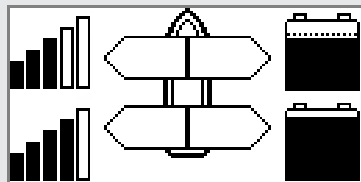
PJC221:
Hydraulic Bow thruster



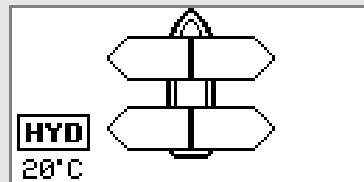
PJC221:
AC Electric Bow thruster



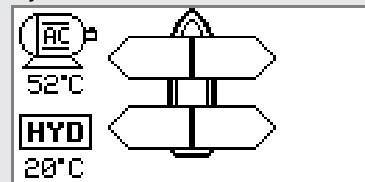
PJC212/222:
DC Electric Bow thruster
DC Electric Stern Thruster



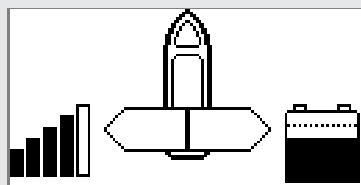
PJC222:
Hydraulic Bow thruster
Hydraulic Stern Thruster



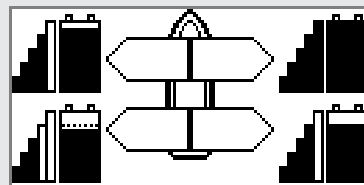
PJC222:
AC Electric Bow thruster
Hydraulic Stern Thruster



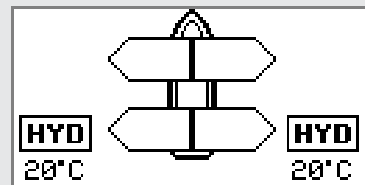
PJC211/221:
DC Electric Stern thruster



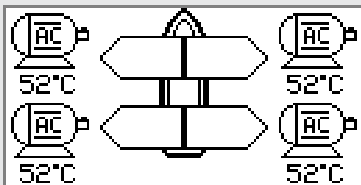
PJC212:
Dual DC Electric Bow thrusters
Dual DC Electric Stern thrusters



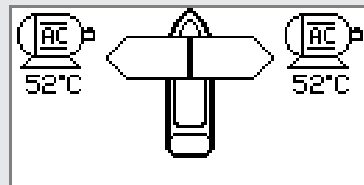
PJC222:
Dual Hydraulic Bow thrusters
Dual Hydraulic Stern thrusters



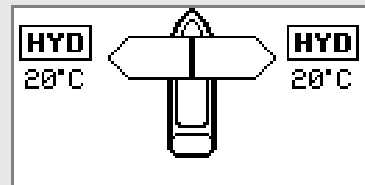
PJC222:
Dual AC Electric Bow thrusters
Dual AC Electric Bow thrusters



PJC221:
Dual AC Electric Bow thrusters

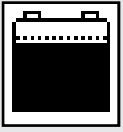


PJC221:
Dual Hydraulic Bow thrusters

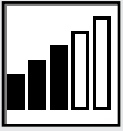


Symbols explanations

DC Thrusters:

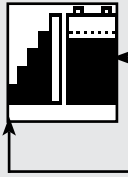


Battery indicator.
From 8.5V to 12V for 12V thrusters,
15V to 24V for 24V thrusters



Motor temperature indicator.
From 70°C/ 158°F to 130°C/266°F.

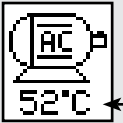
Symbol shown when a DC Thruster is
used in a dual bow or dual stern setup:



Battery indicator.
From 8.5V to 12V for 12V thrusters,
15V to 24V for 24V thrusters

Motor temperature indicator.
From 70°C/ 158°F to 130°C/266°F.

AC Thrusters:



Motor temperature indicator.

Hydraulic Thrusters:



Hydraulic oil temperature indicator.

Retractable Thrusters:



Symbol shown when the thruster deploys.

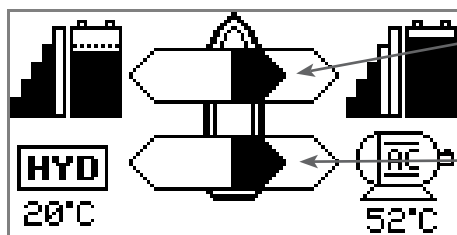


Symbol shown when the thruster retracts.



Symbol shown when the thruster is in position OUT.
When the thruster is deployed and no input is given
via the joysticks/buttons over a 10 second period,
the panel will give an audible signal every 10th
second to tell that the truster is still deployed.

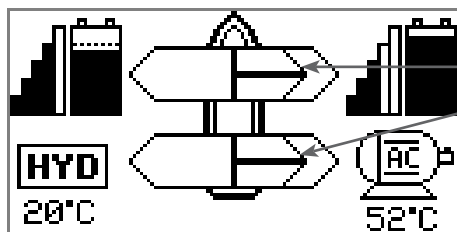
Symbols explanations



Thrust power and direction, Bow thruster(s)

Input from bow joystick on this panel.

The thrust indicator will be shown in this position on a single joystick panel if the thruster is defined as a bow thruster



Thrust power and direction, Stern thruster(s)

Input from stern joystick on this panel

The thrust indicator will be shown in this position on a single joystick panel if the thruster is defined as a stern thruster.

Indicating amount of thrust set by other control units in the system, i.e additional PJC panels, 8700 Retract panel, input via 8730 S-link external switch interface, S-link remote control etc.


If two or more units are set to run the thruster in opposite direction, this information will not be shown.

FIRST TIME SETUP

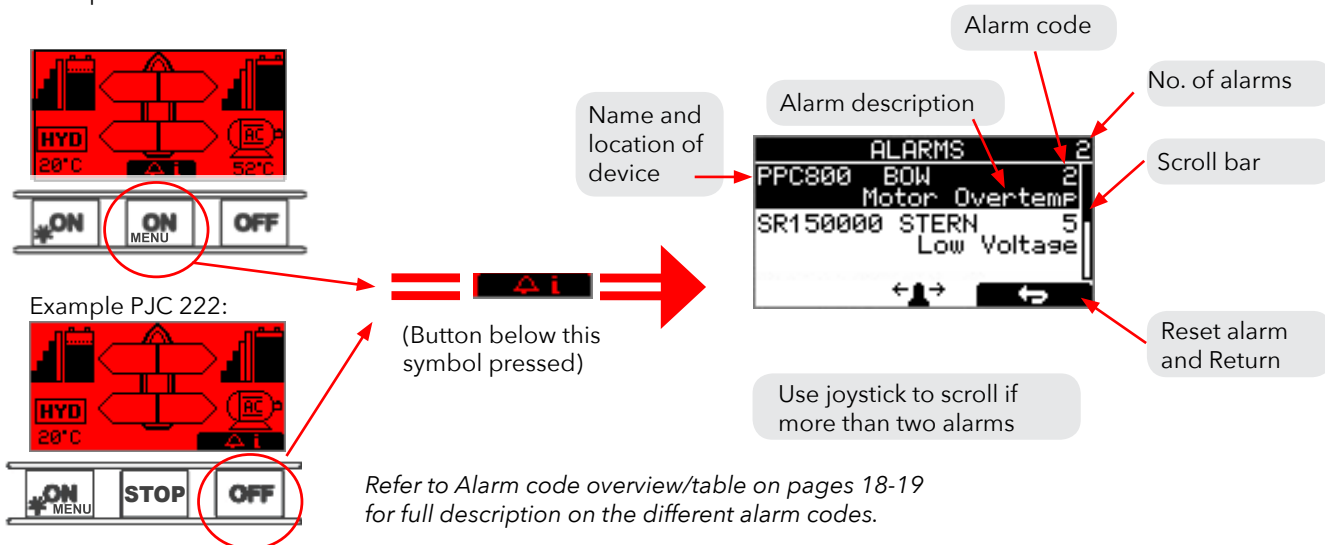
After installation of an S-link thrusters system, a System Setup procedure to setup control panels, thrusters and additional equipment must be completed (ref. procedure on page 13) before the system can be used. Write down all the S- Link devices and serial number one page 27.

Alarms DC System

When there is a problem or a fault, the panel will show this alarm situation by changing LCD display backlight to red color.

The panel will also change to show "Alarm Info"  on the bottom of the screen, indicating that by pressing the corresponding button below, you will get information about what the problem is (examples below).

Example PJC 212:



Non auto reset alarms

Some alarms do not reset, and needs confirmation from user to be reset.
This alarms need reset:


Alarm code	Description	Alarm code	Description
1	Motor Overcurrent	14	Supply Voltage Fault
2	Controller Overtemp	15	Fuse Blown
5	Low Voltage	17	Motion OUT Fault
7	IPC Error	18	Motion IN Fault
8	Critical Error	19	Actuator Fault
9	Low Motor Current	20	Pos.Sensor Fault
10	Motor Contactor	23	Low Oil Level
11	System Error	29	AC Motor Sensor Fault
12	No Communication	34	VFD Fault
13	Motor Temp Sensor	35	Warning Low Voltage

When using the "HOLD" function

The internal and external (if fitted) buzzer will give the following warning signals:

	Warning signals	Cause	Effect
1.	Single short beep every 2.4 sec.	<ul style="list-style-type: none">Voltage below 9.3V/17.5V (12V/24V system).Temperature above 85°C/185°F (80°C/176°F for PPC800 FW V1.013 or older/ SR150000 FW V1.006 or older).	None
2.	Two short beeps every 2.4 sec.	<ul style="list-style-type: none">Voltage below 8.9V/16.3V (12V/24V system).Temperature above 100°C/212°F (90°C/194°F for PPC800 FW V1.013 or older/ SR150000 FW V1.006 or older).	None
3.	Red backlight in display and continous short beeps.	<ul style="list-style-type: none">Voltage below 8.5V/15V (12V/24V system).Temperature above 115°C/239°F (100°C/212°F for PPC800 FW V1.013 or older/ SR150000 FW V1.006 or older).	None
4.	Red backlight in display and continous short beeps.	If one or more of the thrusters enters an alarm state - Voltage below 8 Volts (both 12 and 24 Volt systems) or temperature above 130°C/266°F (110°C/230°F for PPC800 FW V1.013 or older/ SR150000 FW V1.006 or older):	"HOLD" function are cancelled. Both thrusters will stop. Temperature must drop below 115°C/239°F (100°C/212°F for PPC800 FW V1.013 or older) before the thruster can be operated again.

Alarms (AC & hydraulic thrusters)

When there is a problem or a fault, the panel will show this alarm situation by the LCD display in red color. All alarms will show in display when panel is turned OFF. This requires the S-link and other system devices have power. Critical alarms will activate internal and external buzzer (a long beep every 2 seconds). The buzzer can be silenced by pushing the button below , this will also silence all other panels in the system

CRITICAL ALARMS:

Alarm code	Description
	Emergency stop
22	High oil temperature
23	Low oil level
26	High speed stabilizer not active
27	Stabilizer fault
28	Hydraulic AC motor power pack overtemp
29	AC thruster sensor fail AC
31	AC thruster overtemp

For safety! When oil pressure goes below 10bar, the HOLD function is deactivated.

SPECIFIC ALARMS



STOP BUTTON

Pressing the STOP button on a hydraulic panel will activate the dump valve and all hydraulic consumers will be disabled. NB: FOR EMERGENCY USE ONLY

Panel will not run thrusters.

Pressing button below  will mute buzzer alarm at all panels and show the alarm info screen.



ALARM SHOWN ON INACTIVE PANELS!

This screen will be shown on inactive panels if any of the following critical alarms occur:


- Low oil level
- High oil temperature
- Hydraulic AC motor power pack overtemp
- AC thruster overtemp
- AC thruster fail

Pressing button below  will mute buzzer alarm at all panels and show the alarm info screen.

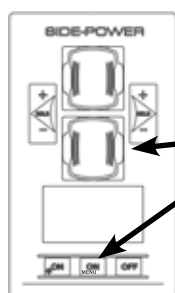


WARNING! HIGH SPEED. STABILIZER NOT ACTIVE!

(Only for yachts equipped with a Side-Power Stabilizer system) Warning will show when yacht is driven at high speed with stabilizer system inactive. Please refer to the Stabilizer ECU manual for speed settings.

Pressing button below  will mute buzzer alarm at all panels and show the alarm info screen.

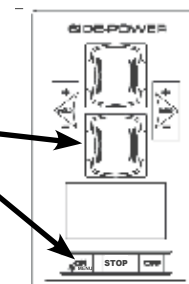
Menu system



PJC 212

Access menu system by pressing and holding Menu button for 3 seconds.

Move around in menus by using joysticks.
Follow instructions on the screen and press the buttons below the symbols indicated on LCD screen.



PJC 222

MAIN MENU ITEMS:

Move between main menu items with the (stern) joystick.

LANGUAGE	STABILIZER (If installed)	SETUP	INFO	DEFAULT SETTINGS	PANEL SETUP
Language	Stabilizer (If installed)	Setup	Info	Default settings	Panel setup

BUTTON SYMBOLS

On the bottom line of the display, a symbol will be shown over the buttons below.

These symbols will show what function each corresponding button has in the selected menu entry.

Return to previous menu.	Select highlighted menu text / Save edited parameter.	Edit highlighted parameter.	Cancel editing without saving.	This symbol indicates that the (stern) joystick is used to move between menu items / parameters.

Menu system



LANGUAGE

- Choose language by moving joystick: English, Norwegian, German, French, Spanish, Italian and Danish.
- Press the button below to set the language to the highlighted menu entry. A star (*) on each side indicates the language set.



(Default in systems with stabilizers)

STABILIZER

(Shown only for yachts equipped with a Side-Power Stabilizer system)

Press the button below to edit the selected parameter.

ON/OFF will start to blink, use joystick to alter value.

Press the button below to save edited parameter to device.

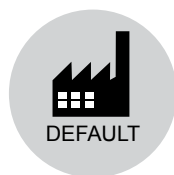
1. Stabilizer:

- Values: ON/OFF
- Switches the stabilizer ON or OFF.



2. AnySpeed:

- Values: ON/OFF
- Switches the zero speed/at anchor stabilization ON or OFF.



DEFAULT SETTINGS

- Reset all settings to factory default - follow instructions on screen
- Press the button below to confirm reset
- The following parameters/values will be set to the factory settings:

Language = English

Backlight Level = 5

Backlight Night Color = Green

Backlight Nightlevel = 1

Timer Auto-Off = 05 min

Hold Calibration = 70% Bow and Stern

All system devices will be erased from memory.

(Setup procedure must be followed to reconfigure the system)



Setup procedure

The setup procedure requires knowledge of the serial number and location of all the S-link devices.

Write this down in the form on the last page to have the information at hand when doing a manual setup.

At the first startup of a new system, one of the two screens below will be shown:



1. SETUP DO NOT MATCH SYSTEM.

✓ FOR AUTO SETUP

New devices found. Not in conflict with other devices.
Press button below the  -symbol to auto setup.

Thrusters can not be operated to auto setup is completed.




2. RUN SETUP! DEVICES IN CONFLICT!

Detected devices in conflict. Two or more thrusters defined as same instance (bow/stern/bow STB/Stern STB). Run Setup procedure to correct.

Thrusters cannot be operated until seup is completed.




2.1

Press and hold the button marked "MENU" for 3 seconds to enter the menu system. Use the (stern) joystick to select "SETUP"; Press button below the  -symbol to enter the "SETUP"-menu.




2.2

Use the (stern) joystick to select "SYSTEM DEVICES"; Press button below the  -symbol to enter the "SYSTEM DEVICES"-menu.



2.3

Use the (stern) joystick to set the pin code one number at the time, press button below the  -symbol to jump to next number and confirm. The pin code is "9 9 9 9".


NOTE: Re-entering the SYSTEM DEVICES menu within 15 minutes does not require entering PIN code



2.4

For about 2 seconds an hourglass will appear while scanning the S-link for devices. The devices found in the system is now displayed with their instance (thruster type and location) and serial number.

Go through all devices and make sure that they are set to the correct instance and function (refer to detailed instructions in the SETUP section of "Menu System"-chapter).

Press button below the  -symbol to save setting and return to "Setup"- Menu.



(Default in systems without stabilizers)

SETUP

Move between menu items with the (stern) joystick.
Press the button below to select the highlighted menu entry.
Press the button below to return to the previous menu.
Setting done under SETUP will be sent to all other panels in the system.

SYSTEM DEVICES

View all devices connected to S-Link and manually change setup values.
A PIN code is required to enter the SYSTEM DEVICES menu.
Use the (stern) joystick to set the pin code one number at a time, press button below the -symbol to jump to next number and confirm.
The pin code is "9 9 9 9".
The number of devices found is shown in the upper right corner of the display.
Use (stern) joystick to move between the installed devices.

The list of devices found can fill more than one screen.
A scroll bar indicates the position of the selected item.

NOTE: Re-entering the SYSTEM DEVICES menu within 15 minutes does not require re-entering PIN code.



Hydraulic system - Setup

1. PHC 024 (Controller for hydraulic thrusters)

Most functions requires PHC 024 with firmware V.1.101 or newer!

Move between PHC-024 parameters with the (stern) joystick.
Press the button below to return to the previous menu.
Press the button below to edit the selected parameter.
Parameter value will start to blink, use joystick to alter value.
Press the button below to save edited parameter to device.
Press the button below to cancel editing without saving.
(see section 4, page 16)

1.1 Bow/Stern Direction:
Values: Normal (default)/Inverted

Switches between Normal and Inverted running direction for the thruster.
Direction need to be inverted if incorrect prop rotation.



Menu system - SETUP



1.2 Pump Control (PTO Mounted Pump)

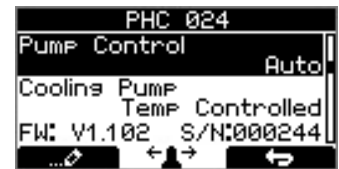
Values: Auto(default)/Always ON/Not Available

When «Pump Control» is set to «Auto», the system will automatically control load sharing between two PTO pumps by deactivating the second PTO pump when not needed (two PTO pumps/control valves required) to reduce heat generation in the system and save fuel/energy.

When any thruster is running, both PTO pumps will be active to ensure good performance. When an SPS stabilizer system is active, one PTO pump will be deactivated to save power. If stabilizers are active and the system pressure drops below 80bar, the system will activate the second PTO pump for 15 minutes to increase the flow capacity and maintain required pressure. After 15 minutes the second pump will be deactivated unless the pressure is still below 80 bar.

“Pump Control” is set to “Not Available” when “Thruster Stern” is set to “with Bypass Valve”. “Pump Control” will then not be able to edit.

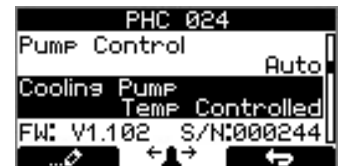
NOTE: “Pump Control: Auto” must only be used on PHC 024 with firmware V.1.008 or higher!



1.3 Cooling Pump

Values: Always Running/Temp Controlled(default)

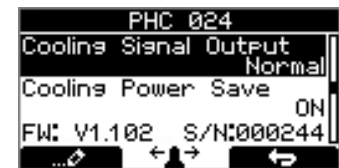
When the option “Temp Controlled” is selected, the cooling pump will start when oil temperature exceeds 50°C/122°F and stop when the oil temperature goes below 40°C/104°F. On systems with two oil tanks, this setting will apply to both tanks.



1.4 Cooling Signal Output

Values: Normal (default)/Inverted

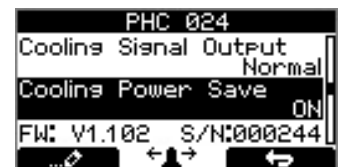
Set to Normal when using a hydraulic cooling pump.
Should be set to Inverted when using an electrical cooling pump with a 10 2380A-12/24V relay box



1.5 Cooling Power Save

Values: ON/OFF (default)

ON sets the Cooling Pump into power save mode, which means the Cooling Pump output is dropping to 0 volt when the oil pressure is below 10 bar for more than 10 seconds (Cooling Pump is turned OFF).



1.6 Tank Monitor

Values: ON (default)/OFF

ON is when you have a tank monitor, oil level and Oil temp sensor.
OFF is when you do not have a tank monitor and the display will show 0°C and no alarm for high temperature or low level will not be transmitted on the S-link.



1.7 Thruster Bow (only available for PHC024 with FW V1.105 or higher)

Values: without Bypass Valve (default)/with Bypass Valve

All 513mm (20inch) tunnel and 610mm (24inch) tunnel thrusters, are supplied with hydraulic bypass/crossover valve and must be set to “with Bypass Valve”.

This bypass valve is normally open to protect the thruster during deceleration and will close while thruster is running.

By selecting “with Bypass Valve” you activate this signal and addition change ramp parameters to match this setup.

All other thrusters must be set to “without Bypass Valve”.





1.8 Thruster Stern (only available for PHC024 with FW V1.105 or higher)

Values: without Bypass Valve (default)/with Bypass Valve

All 513mm (20inch) tunnel and 610mm (24inch) tunnel thrusters, are supplied with hydraulic bypass/crossover valve and must be set to "with Bypass Valve".

This bypass valve is normally open to protect the thruster during deceleration and will close while thruster is running.

By selecting "with Bypass Valve" you activate this signal and addition change ramp parameters to match this setup.

All other thrusters must be set to "without Bypass Valve".



1.9 Thruster Function (only available for PHC024 with FW V1.105 or higher)

Values: BOW/STERN (default)/ BOW/BOW / STERN/STERN

Thruster function is how the two thruster valves are set to work.

BOW/STERN: One thruster valve output runs on bow signal from control device, and the other thruster valve output runs on stern signal from control device.

BOW/BOW: Both thruster valve outputs runs on bow signal from control device.

STERN/STERN: Both thruster valve outputs runs on stern signal from control device.



1.10 (1.7 if PHV024 FW version is lower than V1.105) *Instance*

Values: --(default)/PORT/STARBOARD

Setting the PHC024 tank controller instance. For a mono hull boat the instance should be "--". If you have a catamaran with two PHC024 controllers then the one in the port hull should be set as "PORT" and the one in the starboard hull as "STARBOARD". This way the two controllers are shown in the panel display as two different oil tanks to monitor.







(Default in systems without stabilizers)

AC system - Setup


2. PDC 201


(SAC Controller)

Press the button below  to return to the previous menu.

Press the button below  to edit the selected parameter.

Parameter value will start to blink, use joystick to alter value.

Press the button below  to save edited parameter to device

Press the button below  to cancel editing without saving.

2.1 Location

Values: BOW/STERN/BOW-STB/STERN-STB

Set the location for selected device. Use BOW or STERN in a conventional thruster system. In a system with two bow or stern thrusters (i.e a catamaran), use BOW or STERN for port thruster, BOW-STB or STERN-STB for starboard thruster.



2.2. Direction


Values: Normal (default)/Inverted

Switches between Normal and Inverted running direction for the thruster.



3. PDC 101

(SAC Controller) (This device is not able to edit. Pre-setup from factory.)

Press the button below  to return to the previous menu.

PDC101 must be setup by authorized personnel.

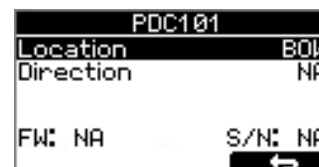
Firmware version and serial number is Not Available (NA).

3.1 Location

Values: BOW/STERN/BOW-STB/STERN-STB

BOW or STERN in a conventional thruster system.

In a system with two bow or stern thrusters (i.e a catamaran), BOW and STERN is port thruster, BOW-STB and STERN-STB is starboard thruster.



3.2. Direction

Values: NA (Not Available)



(Default in systems without stabilizers)

DC system and device- Setup

4. MAIN SWITCH

Press the button below to return to the previous menu.

Press the button below to edit the selected parameter.

Parameter value will start to blink, use joystick to alter value.

Press the button below to save edited parameter to device

Press the button below to cancel editing without saving.

4.1 Location

Values: BOW/STERN/BOW-STB/STERN-STB

Set the location for selected device. Use BOW or STERN in a conventional thruster system. In a system with two bow or stern thrusters (i.e a catamaran), use BOW or STERN for port thruster, BOW-STB or STERN-STB for starboard thruster.



5. PPC800 - DC Speed Control

SR150000 - Control unit for SRV80/SRV100/SRV130/SRV170/SRV210/SRH

SR61242 - Control unit for SR80/SR100

Move between parameters with the (stern) joystick.

Press the button below to return to the previous menu.

Press the button below to edit the selected parameter.

Parameter value will start to blink, use joystick to alter value.

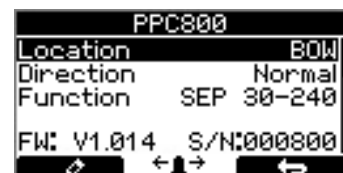
Press the button below to save edited parameter to device

Press the button below to cancel editing without saving.

5.1 Location

Values: BOW/STERN/BOW-STB/STERN-STB

Set the location for selected device. Use BOW or STERN in a conventional thruster system. In a system with two bow or stern thrusters (i.e a catamaran), use BOW or STERN for port thruster, BOW-STB or STERN-STB for starboard thruster.



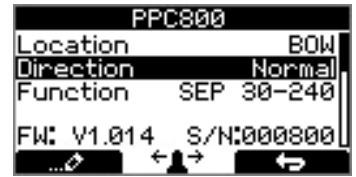
Menu system - SETUP



(Default in systems without stabilizers)

5.2 Direction

Values: Normal (default)/Inverted
Switches between Normal and Inverted running direction for the thruster



5.3 Function

Values: SR(V/L) ON/OFF, SRP 80/100, SRVP 130-210, SEP 30-240, SRVP 80/100, SRH, SRHP

Setup the control unit behaviour

- SR(V) ON/OFF: Retract thruster without speed controller (PPC800/PHC-024), SR61242 or SR150000.
- SEP 30-240: Tunnel speed thruster, PPC800 without retract.
- SRP: Retract SR61242 with PPC800, both devices needs to be set to SRP 80/100.
- SRVP/SRLP: Retract SR150000 with PPC800, both devices needs to be set to SRVP/SRLP.
- SRHP: Proportional Hydraulic retract.
This needs the PHC024 controller.



	PPC800	SR150000	SR61242	PHC 024
SR(V/L) ON/OFF		x	x	
SRP	x		x	
SRVP/SRLP	x	x		
SEP 30-240	x			
SRHP		x		x




(Default in systems without stabilizers)

6. RCRS-1


(S-Link Radio Remote Receiver)


Move between parameters with the (stern) joystick.

Press the button below  to return to the previous menu.

Press the button below  to edit the selected parameter.

Parameter value will start to blink, use joystick to alter value.

Press the button below  to save edited parameter to device.

Press the button below  to cancel editing without saving.

6.1 BOW/STERN Thrust

Values: 0-100% (Default 75%)

Set the amount of thrust given by the remote control.


In a bow/stern configuration, try to balance the thrust so that the boat moves straight sideways when both thrusters are operated simultaneously with input from the remote only.



7. MSI8730


(S-Link Interface)


Move between parameters with the (stern) joystick.

Press the button below  to return to the previous menu.

Press the button below  to edit the selected parameter.

Parameter value will start to blink, use joystick to alter value.

Press the button below  to save edited parameter to device.

Press the button below  to cancel editing without saving.

7.1 Location

Values: BOW/STERN/BOW-STB/STERN-STB

Set the location for selected device. Use BOW or STERN in a conventional thruster system. In a system with two bow or stern thrusters (i.e a catamaran), use BOW or STERN for port thruster, BOW-STB or STERN-STB for starboard thruster.



7.2 Thrust

Values: 0-100% (Default 75%)

Set the amount of thrust given by the remote control.

In a bow/stern configuration, try to balance the thrust so that the boat moves straight sideways when both thrusters are operated simultaneously with input from the remote only.







(Default in systems without stabilizers)

HOLD CALIBRATION

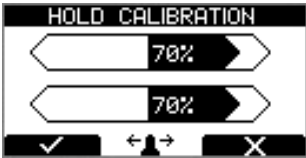
Calibrates the HOLD-function to get balanced thrust from the bow and stern thruster. Incomplete. the Hold-button represents 1/6 if the calibrated value.

Note! HOLD CALIBRATION is not available until SETUP is completed.

To start calibration, press the "+"-Hold button in the desired direction. For a first time calibration, the thrusters will start at 70%. A system previously calibrated will start with the last amount of thrust set.



Adjust power with the joystick.
Press the button below  to save the calibration values.
Press the button below  to cancel calibration without saving.

Note: Setup calibration in one direction sets values for both directions.





INFO

- Move between menu items with the (stern) joystick.
- Press the button below  to select the highlighted menu entry.
- Press the button below  to return to the previous menu.





THRUSTER INFO

Display info about the thrusters in the system.

The number of thrusters/controllers found is shown in the upper right corner of the display.

Use (stern) joystick to move between the installed devices.

Press the button below  to select the highlighted menu entry.

Press the button below  to return to the previous menu.



The list of devices found can fill more than one screen. A scroll bar indicates the position of the selected item.

The joystick(s) operates the thrusters as normal while info is displayed. This will be useful for troubleshooting, service and general system diagnostics.

PPC800 (DC Speed Control)

SR150000 (Control unit for SRV80/SRV100/SRV130/SRV170/SRV210/SRH)

SR61242 (Control unit for SR80/SR100)


Motor Temp: Temperature measured at the electric motor brushes
(Not implemented in SR61242)

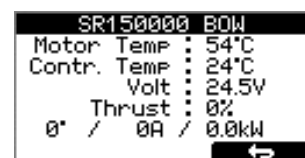
Contr. Temp: Temperature measured inside the controller
(Not implemented in SR61242)

Voltage: Motor Voltage measured at the controller

Thrust: Thrust level from joystick/hold buttons

%A/kW: Retract angle (SR150000) / Motor Current (PPC800) / Effect reading (PPC800) SR150000 retract angel is 0° when fully deployd, and about 90° when retracted. Put SR150000 in service mode and operate the controller manually in an out to read the two end position angels for service and installation.

Press the button below  to return to the previous menu.



PHC024 (Controller for hydraulic thrusters)

Oil Pressure: Oil pressure measured at system oil tank


Oil Temp: Temperature measured inside the oil tank

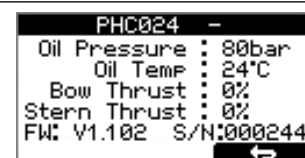
Bow Thrust: Thrust level from joystick/hold buttons

Stern Thrust: Thrust level from joystick/hold buttons

FW: Version number, Firmware

S/N: Serial number of the PHC 024

Press the button below  to return to the previous menu.




PDC100 and PDC 201 (Controller for AC electric thrusters)

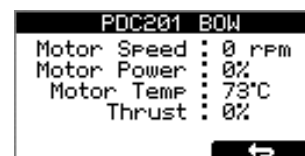
Motor Speed: RPM on motor output shaft

Motor Power: Motor power consumption in % (PDC201 only)

Motor Temp: Temperature measured in motor

Thrust: Thrust level from joystick/hold buttons

Press the button below  to return to the previous menu.



PANEL INFO

Display info about the control panel

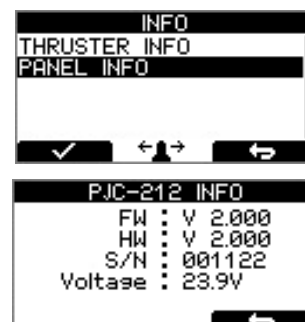
FW: Version number, Firmware

HW: Version number, Hardware

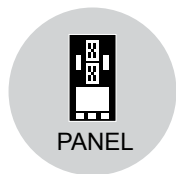
S/N: Serial number of the control panel

Voltage: S-link system voltage measured at the panel





Press the button below  to return to the previous menu.



Menu system - PANEL SETUP



PANEL SETUP

- Move between parameters with the (stern) joystick.
- Press the button below  to return to the previous menu.
- Press the button below  to edit the selected parameter.
- Parameter value will start to blink, use joystick to alter value.
- Press the button below  to save the edited parameter.
- Press the button below  to cancel editing without saving.

BACKLIGHT LEVEL

Values: 1-5

Set level of panel backlight in daylight mode.

1 is lowest intensity, 5 is the highest.



BACKLIGHT NIGHT COLOR

Values: GREEN, BLUE, RED, WHITE

Select color of backlight in nightlight mode .



BACKLIGHT NIGHT LEVEL

Values: 1-3

Set level of panel backlight in daylight mode,

1 is lowest intensity, 3 is the highest.



TIMER AUTO-OFF

Values: OFF, 01-60 min

Set the time from last use to auto panel shutdown.

Set from 1-60 minutes in 5 minute steps (1 minute steps from 1 to 5 minutes) or OFF (panel will not turn off automatically).



UNIT TEMPERATURE

Values: CELSIUS (Default), FAHRENHEIT

Set the panel temperature displaying unit.



WHEN RETRACT IS OUT

Values: NO WARNING (Default), WARNING EVERY 10sec

Select 'WARNING EVERY 10sec' for external buzzer or lamp warning every 10 seconds when retract is out. This will activate the internal relay for 0.2 seconds every 10 seconds while the retract is out. See page 26 for buzzer connections.



Alarm descriptions

Alarm code	Errors shown in display	Auto Reset	Description	Action
1	Motor Overcurrent		Motor current over 1400A.	Thruster must be serviced by authorized personnel, reset or PPC800 power OFF/ON.
2	Motor Overtemp	Yes	Motor temp has been over 130°C/266°F. (110°C/230°F for PPC800 FW V1.012 or older and SR150000 FW V1.006 or older).	Motor cool down below 115°C/239°F (100°C/212°F for PPC800 FW V1.012 and older and SR150000 FW V1.006 and older).
3	Controller Overtemp		PPC800 temp has been over 80°C/176°F.	PPC800 cool down below 45°C/113°F.
4	Controller Overtemp		SR150000 temp has been over 80°C/176°F.	SR150000 cool down below 45°C /113°F.
5	Low Voltage		Low voltage on Motor.	Recharge battery, reset or device power OFF/ON.
6	Thermoswitch	Yes	Motor temp has been over 110°C/230°F.	Motor cool down below 100°C /212°F.
7	IPC Error		Motor relay fault.	Turn off thruster battery main switch. Thruster must be serviced by authorized personnel, power OFF resets alarm.
8	Critical Error		PPC800 output fail.	PPC800 must be sent for service.
9	Low Motor Current		Thruster uses no power.	Check thruster connections or motor dead!
10	Motor Contactor		No current on motor relay coil.	Check motor relay connections, short circuit or relay dead!
11	System Error		Fatal error.	Device must be serviced by authorized personnel.
12	No Communication		No communication with device.	Check S-Link or power connections.
13	Motor Temp Sensor		Motor temperature sensor fail.	Check for an open circuit on the temp sensor on the motor or abnormal reading.
14	Supply Voltage Fault		No power.	Check power connections.
15	Fuse Blown		Fuse blown.	Replace fuse or check if main cable from battery and main cable to thruster has been switched.
16	Manual Override	Yes	Main switch manually overridden.	Pull main switch.
17	Motion OUT Fault		Retract obstructed while deploying.	Turn off all panels. Go for lower speed/ deeper water and retry.
18	Motion IN Fault		Retract obstructed while retracting.	Turn panel on and manually override main switch. Remove obstruction and try again.

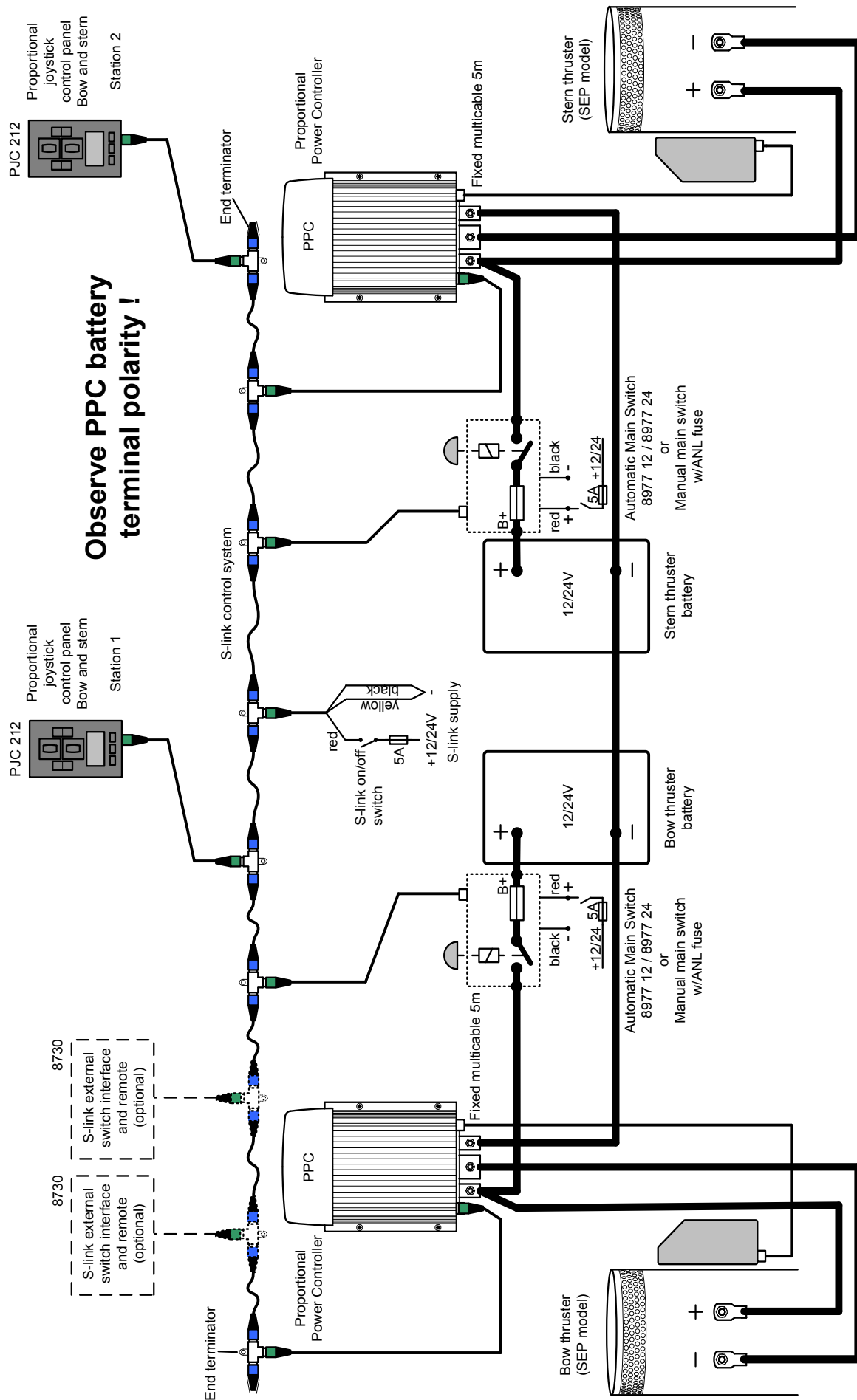
Alarm descriptions

Alarm code	Errors shown in display	Auto Reset	Description	Action
19	Actuator Fault		Actuator not getting any power.	Check actuator connection or power to actuator. Reset alarm in alarm menu on PJC 211/212/221/222 or recycle power.
20	Pos.Sensor Fault	Yes	Retract position sensor fail.	Check position sensor cables and for sensor damage.
21	In Service Mode	Yes	Retract controller in service mode.	Check dipswitch setting on retract control box.
22	High Oil Temp	Yes	Hydraulic oil temperature is higher than 75°C /167°F.	Stop running and wait for temperature to drop. Check if cooling pump is running.
23	Low Oil Level	Yes	Hydraulic oil level is to low.	Fill more hydraulic oil to the hydraulic tank.
24	Warning Return Filter	Yes		Return filter element requires replacing.
25	Warning Pressure Filter	Yes		Pressure filter element requires replacing.
26	Warning High Speed	Yes	WARNING! High Speed. Stabilizer not active!	
27	Stabilizer Fault	Yes	Any Stabilizer alarm.	See stabilizer panel for more info.
28	AC Motor Overtemp	Yes	Hydraulic AC motor power pack overtemp. Higher than 120°C/248°F.	
29	AC Motor Sensor Fail		Hydraulic AC motor power pack temp sensor open curcuit.	
30	Temperature Warning	Yes	High temperature warning.	See manual for more details.
31	Motor Overtemp	Yes	High temperature Alarm.	See SAC manual for more details.
32	VFD Warning	Yes	There is a warning from VFD.	Check VFD for more details.
33	VFD Not Ready	Yes	The VFD is not ready.	Check VFD for more details.
34	VFD Fault		VFD has an Alarm.	Check VFD for more details.
35	Warning Low Voltage		Low voltage Warning!	
36	Not Calibrated	Yes	Drive shaft not aligned.	Calibrate drive shaft alignment, see retract manual.
37	VFD Com. Fault		PDC201 no Modbus communication.	

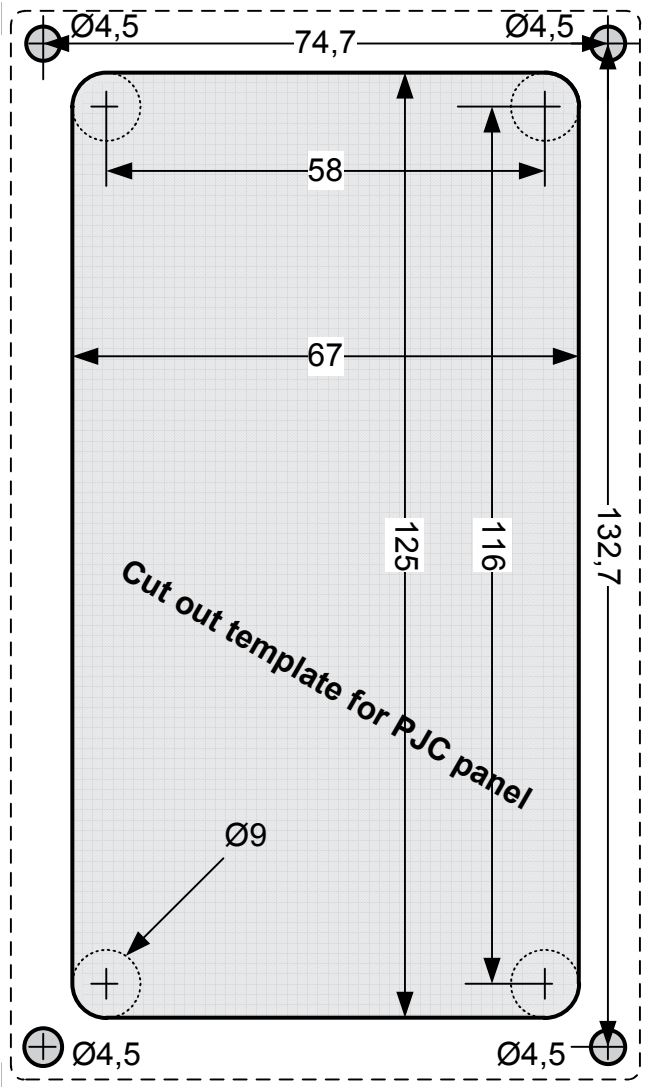
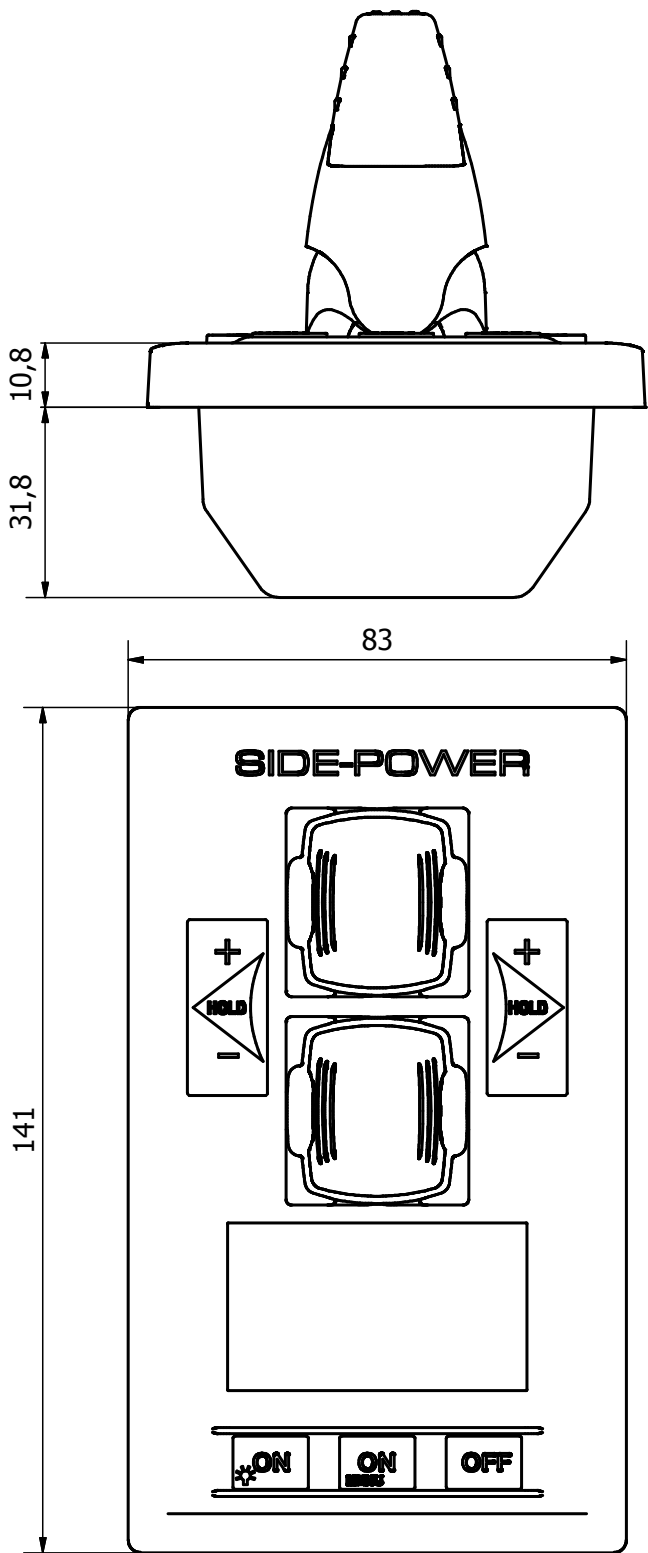
Technical specifications

Description	Minimum	Maximum	Units	Comment
Input voltage	9	31	Volt DC	Powered from S-Link
Current Voltage	20	120	mA	
External Alarm Buzzer Voltage		31	Volt DC	
External Alarm Buzzzer Current		500	mA	Internally fused

Description	Value
Operating temperature	-10 to + 60 degrees C.
Storage temperature	-20 to + 70 degrees C.
IP rating front	IPx6
IP rating back	IPx4
Humidity	max 95% RH
EMC tested	Acc. to EN 60533
Weight	215 gr.

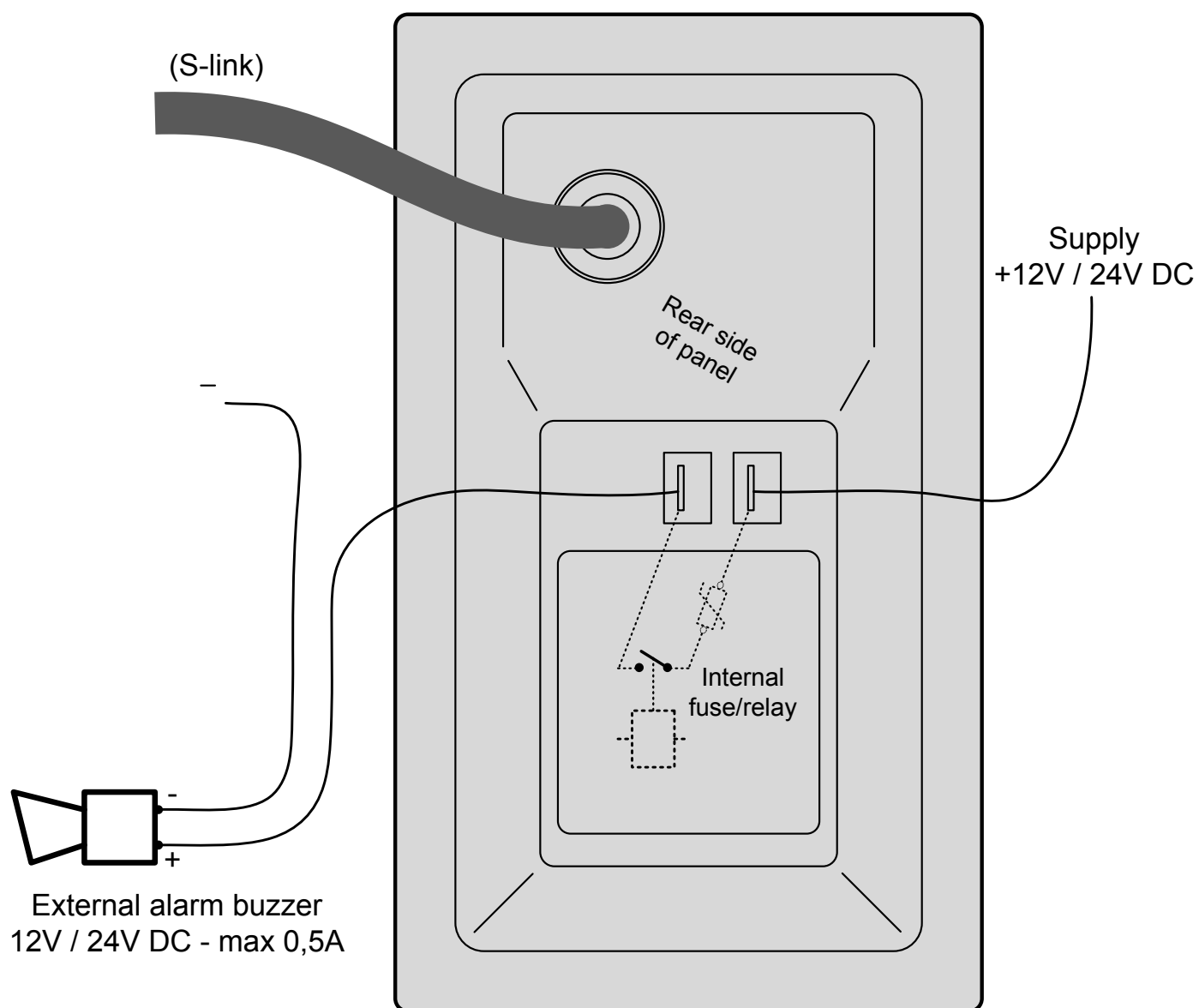


Measurements



Connections

Connections for optional external buzzer/audible alarm.



Note type, location and serial numbers

Fill in the type, location and serial numbers of the S-link devices installed. Keeping this as a reference will make the setup procedure easier!

[illegible]

Worldwide sales and service



www.side-power.com



SLEIPNER MOTOR • AS P.O. Box 519 • N-1612 Fredrikstad • Norway
Tel: +47 69 30 00 60 • Fax: +47 69 30 00 70 • www.side-power.com • sidepower@sleipner.no